

TeleSpan Communications, LLC Wildcat Canyon Wireless Collocation

Project Site

The project site is located at 12918 Wildcat Canyon Rd. in Lakeside, CA. It is midway between Lakeside to the south, and Ramona to the north. The parcel is zoned (A-70), is (3.7) acres in size, and currently has a residence and several outbuildings used for storage on the property.

Project Description

TeleSpan Communications, LLC (“TeleSpan”) is seeking to build a camouflaged, wireless collocation site on the property that is capable of hosting all four wireless carriers. TeleSpan has performed detailed drive-test analyses along Wildcat Canyon Rd. and in the general vicinity, where each of the four commercial wireless carriers’ signals (Verizon, AT&T, T-Mobile, and Sprint) were measured and documented using in-vehicle drive test equipment. All four carriers have sporadic, or no, service along a 4 ½ mile segment of Wildcat Canyon Rd. Exhibit A depicts the drive test results for each carrier, and Exhibit B models the coverage that would be available to each of these carriers from collocating on the TeleSpan site.

This application proposes to install a concrete masonry unit (CMU) block wall equipment compound of approximately 2250 square feet to host four wireless carriers outdoor radio equipment, and to provide sufficient room for up to four standby power generator, the emergency generators are to be permitted separately at a later date. A 75 foot antenna support structure camouflaged to look like a Eucalyptus is also proposed to be installed immediately adjacent to the equipment compound. The height of the faux-monotree was calculated by determining the lowest possible antenna height required for the fourth (i.e.: lowest) carrier installed on the structure, to be able to “see” over adjacent foliage and topographical obstructions. The equipment compound and faux-monotree are located well within the interior of the parcel. The estimated cost of the project will be \$85,000.00.

Preference Categories

Section 6986 of the Telecommunications Ordinance (Preferred Sites) identifies the preference categories assigned to proposed zones and locations. The project site is zoned A-70, which is not a preferred zone for telecommunications facilities. The project location is on a site developed with a single-family residence, surrounded on all sides by live eucalyptus, which functions to help camouflage the proposed faux tree facility. Although this design is defined as “high visibility” according to the County’s Wireless Ordinance because it exceeds the height and is a tree design, it is the most appropriate design for the subject site. The proposed faux tree design will appear as a natural landscape element that would disappear from public view as an excepted element.

Below is a list categorizing what the site development team explored prior to arriving at the proposed location.

- *Preferred Zones: Industrial and Commercial*
Within and around the project search ring there are no industrial or commercial zones. Due to the topographical variations within the area, this particular search ring was extremely narrow. The surrounding area is solidly agricultural/residential zoning and land use character of the project area (entirely S80 Open Space and A70 agricultural zoning). There are no industrial or commercial sites within the search ring area.

- Preferred Locations:
 - *Public Right of Way / Utility Poles*
Public right-of-way solutions were sometimes relied upon with earlier generation wireless facilities when the requirements for data capacities were less and quick voice only coverage solutions were acceptable. The current generation carrier broadband installation requires a minimum of 1,000-square-feet of base station area and the capacity to carry 3 levels of panel antennas. No public right-of-way location was identified that could accommodate the TeleSpan facility required to provide adequate coverage and service level to the target area. Again, the significant topographical constraints of the surrounding area make utilities poles obsolete.
 - *Water Tanks*
Water tank sites are preferred solutions for wireless sites since they represent a non-residential land use, frequently located within residential areas and located on high ground. However, we were unable to identify any water tank facilities in the search ring.
 - *Non-Residential Land Uses*
Opportunities for any non-residential land uses were examined. Our search for non-residential land uses included commercial sites, parks, fire stations, schools, churches, community centers and open space areas. There is Open Space (OS) land near by but Open Space is not a preferred location for WCF's.

Pre-Existing Wireless Sites in the Surrounding Area

Exhibit C shows the locations of alternative commercial carrier sites within a four mile radius of the project site. As can be seen from Exhibit C, the area needing service is within a natural canyon and with the exception of a Sprint (legacy Nextel) site (see below) all of the other alternative commercial carrier sites are outside of that canyon and are thus incapable of providing coverage along that portion of Wildcat Canyon Rd.

Although the above-mentioned Sprint site is only located approximately 1/2 mile to the north, it is topographically separated/screened from the canyon that Wildcat Canyon Rd. follows. It was apparently selected, designed, and built to cover the Barona Casino to the north, therefore it is not capable of covering Wildcat Canyon Rd., and was thus not considered to be a viable candidate capable of meeting the coverage objective.

Alternative Locations in the Surrounding Area

The following additional alternative locations were also evaluated:

See GSA Exhibit D.1-Sprint/Verizon for coverage mapping of the existing Nextel/ Sprint and Verizon Monopine located at 13136 Old Barona Rd. Is roughly ½ a mile due north of the proposed location. The main service area of this location is the Barona Casino and surrounding area. As the propagation mapping shows Good coverage immediately around the site location and to the NE around the Baron Casino property

See GSA Exhibit D.2- Sky Ranch, a private property located at 12602 Wildcat Canyon Rd. this property was considered. This candidate was rejected due to property title/ownership issues, several illegal structures on the property. As well as neighborhood opposition on a previous attempt by AT&T to re-permit the previously planning director approved project. Additionally with the location being 100' from Wildcat Canyon road it was considered highly visible and does provide fair coverage but has shadowing issues as Wildcat Canyon Rd turns NE past Old Barona Road

See Exhibit D.3- Givens Property, this location is directly east of the proposed site across Wildcat Canyon. It is located directly south of the Audubon Society Property the was accessed on the original ASA. This property would provide good coverage south on Wildcat Canyon. It does not provide good coverage north on Wildcat Canyon or up Old Baron Rd due to the topography to the north and northwest.

See GSA Exhibit D.4 Verizon Muth, this location is outside of the area of coverage to the south but would tie into the coverage of the proposed site location.

Other locations previously reviewed:

1. The Oak Oasis County Park located at the intersection of Wildcat Canyon Rd. and Oak Oasis Rd. was considered. This site was rejected because it did not offer comparable radio propagation as did the selected project site, specifically the ability to provide coverage through a turn on Wildcat Canyon Rd. to the north of the search area.
2. Property owned by the Audubon Society located near the intersection of Wildcat Canyon Rd. and Old Barona Rd., Lakeside, CA was also considered. This candidate was rejected due to the fact that it is held as an open space preserve.

Alternative Locations on the Same Parcel

Several locations on the same parcel were considered. Although multiple locations on the parcel would be capable of providing comparable radio performance, the selected location was further distant from the property lines (over 100 feet) making it a better candidate from a sound containment perspective. It was also the least visible location on the parcel due to being located toward the middle back of the parcel and further away from potential public view.

Public Benefit

The serious lack of coverage from the major wireless carriers in and around the project area has significant public safety considerations. The majority of 911 calls are now placed by wireless telephone, and many of the emergency responders now rely upon the wireless networks to a large degree for their communications. The proposed wireless facility would be E-911 compliant, meaning that emergency calls placed from the wireless phones of other carriers would connect through the proposed TeleSpan site. In such hilly areas, regular radio communications may not be reliable, but the cellular networks provide secure communications for areas having network coverage. Also, the wireless systems have the ability to locate lost, injured or stranded persons with the GPS aspect of the cellular networks. These rural communities of the County are vulnerable to isolation in the event of wildfires, earthquakes or other public emergencies if regular landline communications become severed. The installation of the proposed TeleSpan facility would greatly enhance personal, business and emergency communications for this rural community San Diego County. The emergency generators proposed will also add to the safety of the community in the case of a major catastrophe or long duration power outages.

Exhibit A
Drive Test Results
AT&T Wireless

This map shows the actual field measurements from the drive test. AT&T's closest sites to the troubled area are 2 and 3 miles from the summit of Wildcat Canyon Rd. The coverage shown on Wildcat Canyon Rd is coming from AT&T's sites at Barona Casino. Coverage from this location is mainly to serve the Casino and golf course and not the Wildcat Canyon road to the south and the surrounding residential.



Exhibit A
Drive Test Results
Verizon Wireless

This map shows the actual field measurements from the drive test. Verizon's closest sites to the troubled area are ½ which is blocked by terrain and 3 miles (Hwy 67) from the summit of Wildcat Canyon Rd. The coverage shown on Wildcat Canyon Rd is coming from Verizons sites at Barona Casino and from Hwy 67 to the east.



Exhibit A
Drive Test Results
T-Mobile

This map shows the actual field measurements from the drive test. T-Mobile closest sites to the troubled area are 2 and 3 miles from the summit of Wildcat Canyon Rd. The coverage shown on Wildcat Canyon Rd is coming from T-Mobile's site on Hwy 67 over 3 miles away. Coverage from this distance is unreliable and only causes T-Mobile's customer's phones to use up battery life trying to communicate with a tower this far away.



Exhibit A
Drive Test Results
Sprint

This map shows the actual field measurements from the drive test. Due to the terrain and the location of Sprints site being mainly to cover the Barona Casino to the NE the coverage on Wildcat and surrounding area is limited to about 300' of this 2.5 mile section of Wildcat Canyon Dr.

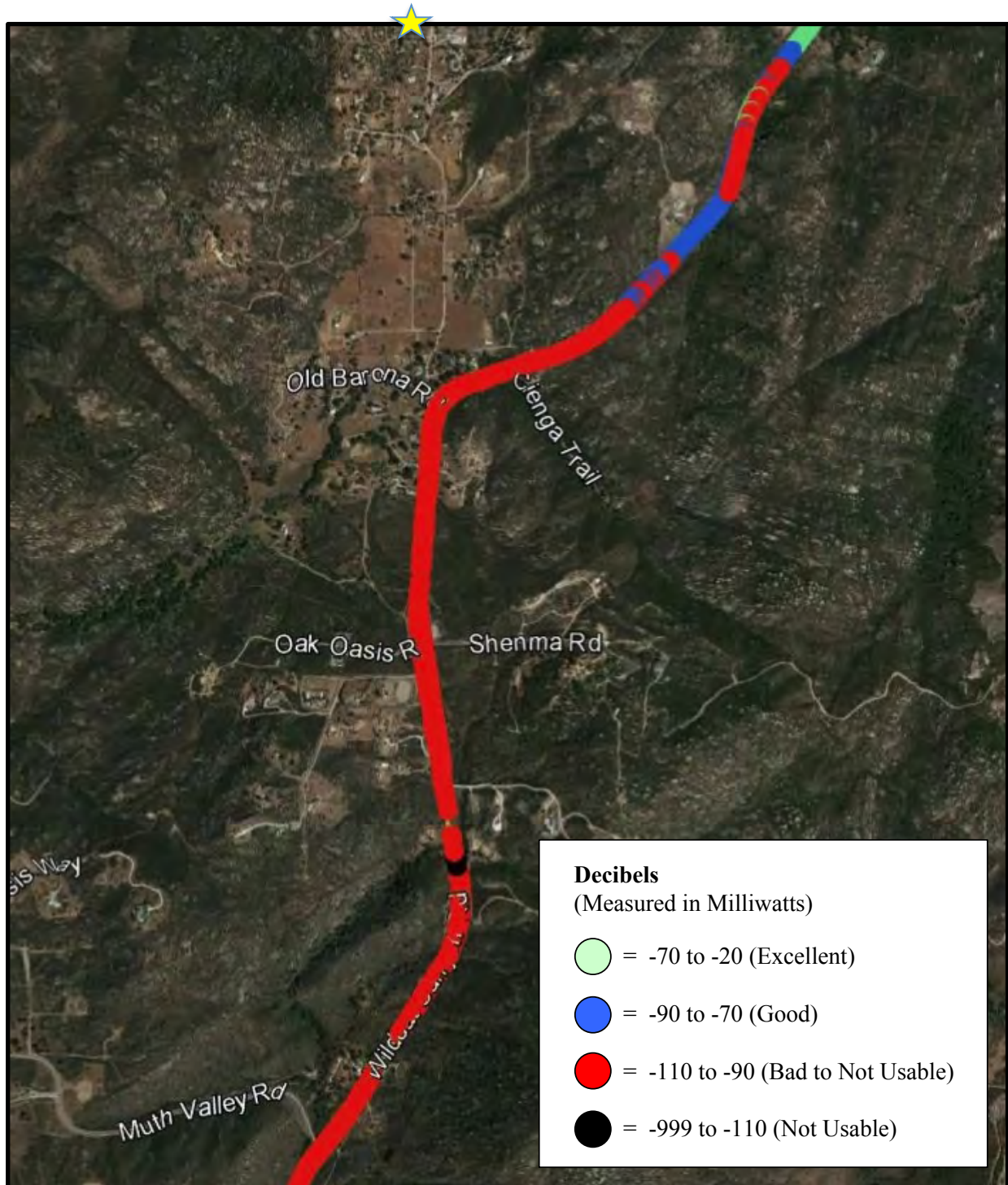


Exhibit B
Radio Frequency Propagation Modeling
All Carriers

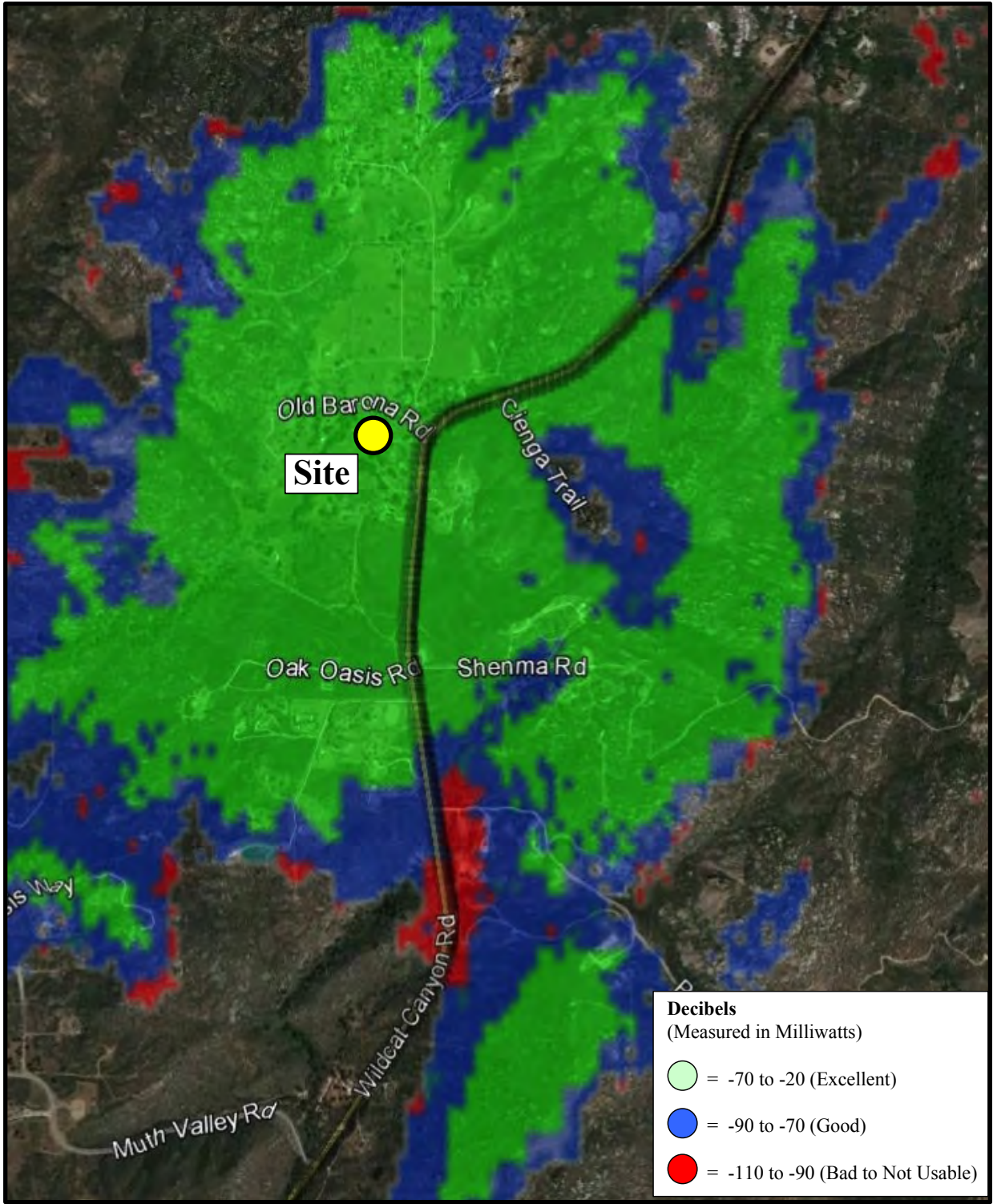
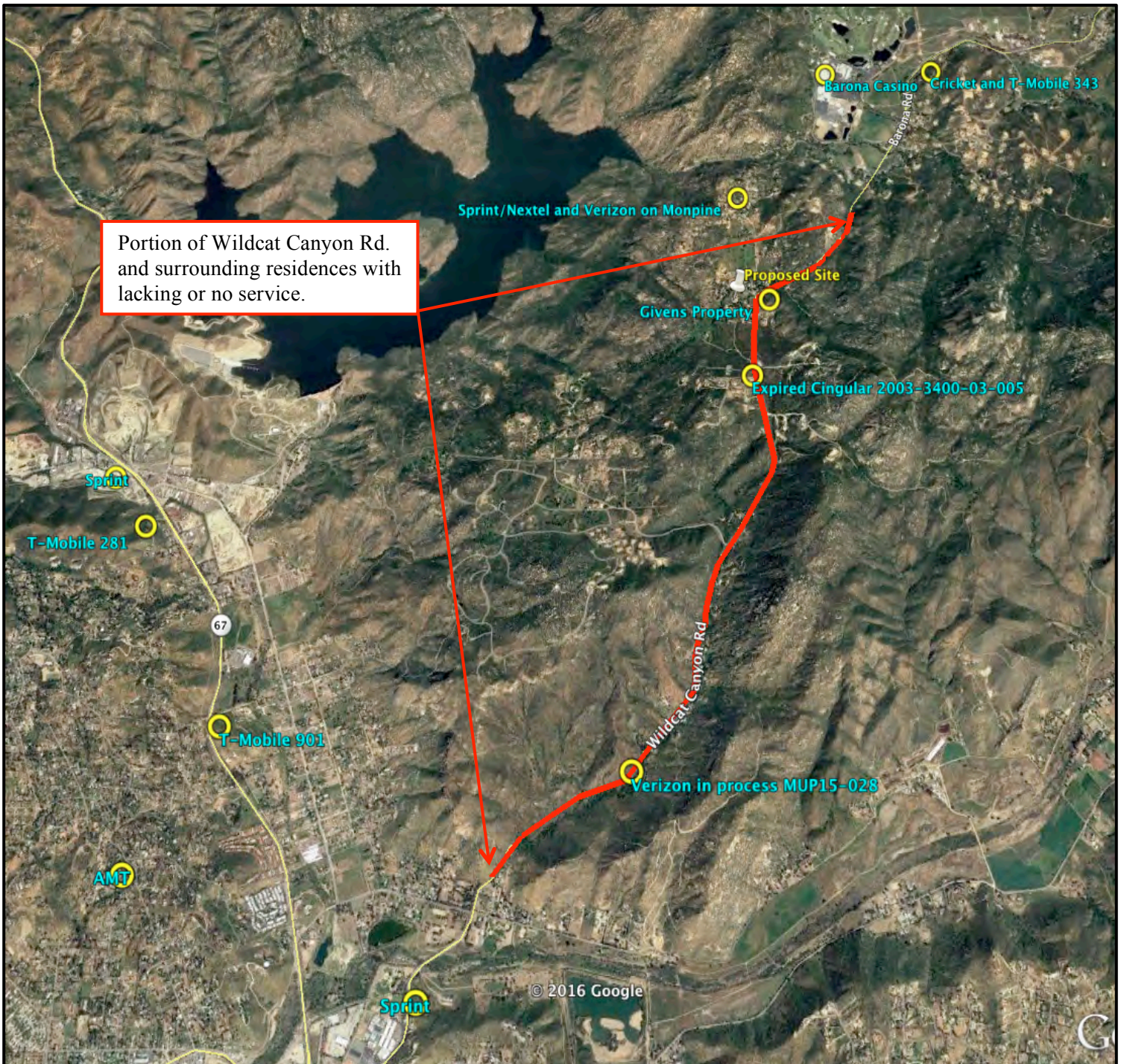
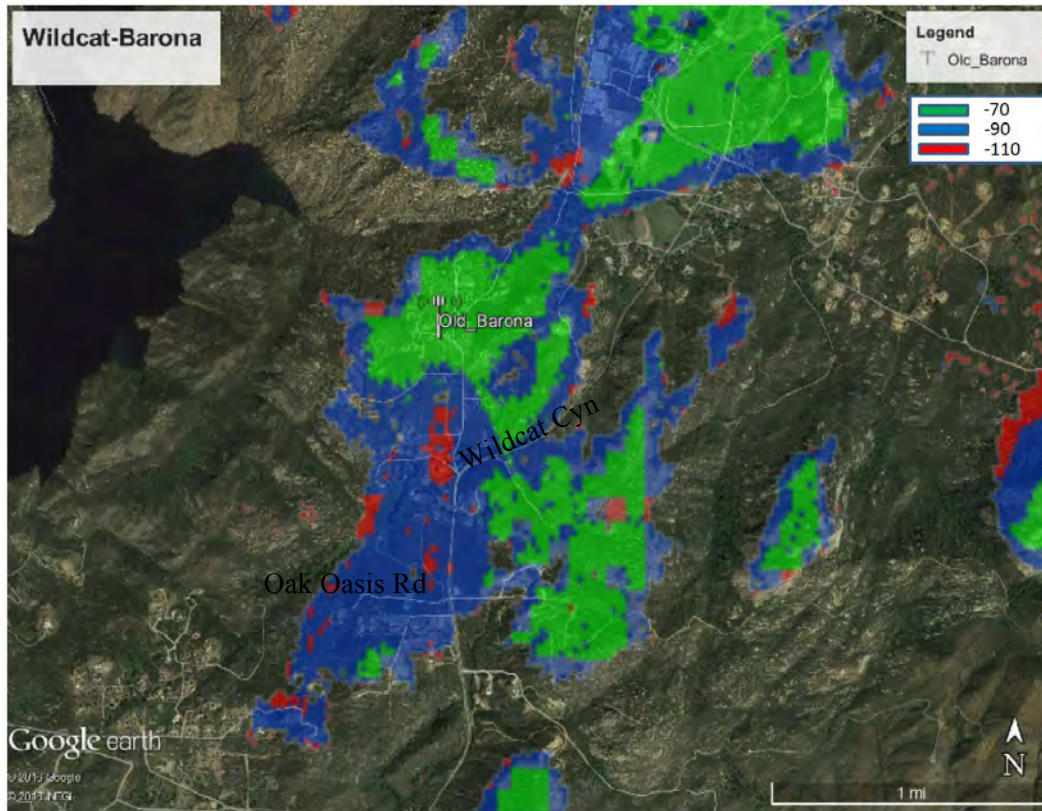


Exhibit C
Alternate Locations in Surrounding Area

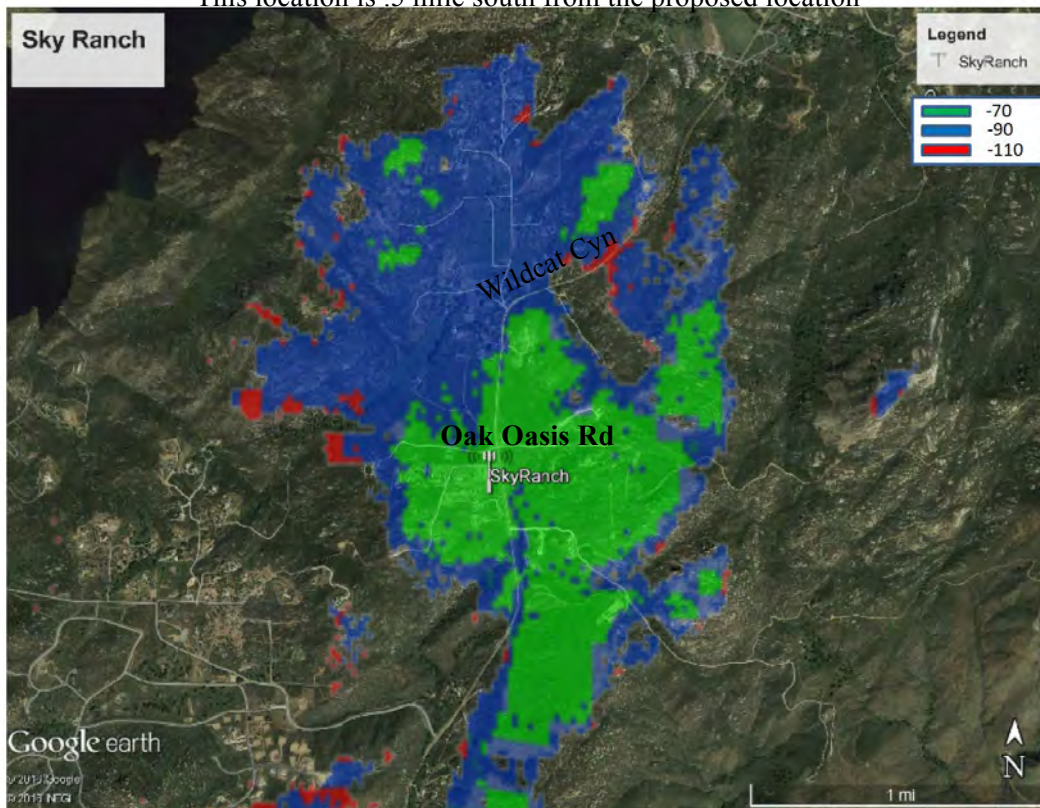


MUP-16-008 Exhibit D GSA mapping for ASA other nearby locations that were evaluated
D.1 The Sprint/Verizon site at 13136 Old Barona Road, PDS2001-3400-00-89/ 2014-ZAP-00-089M2



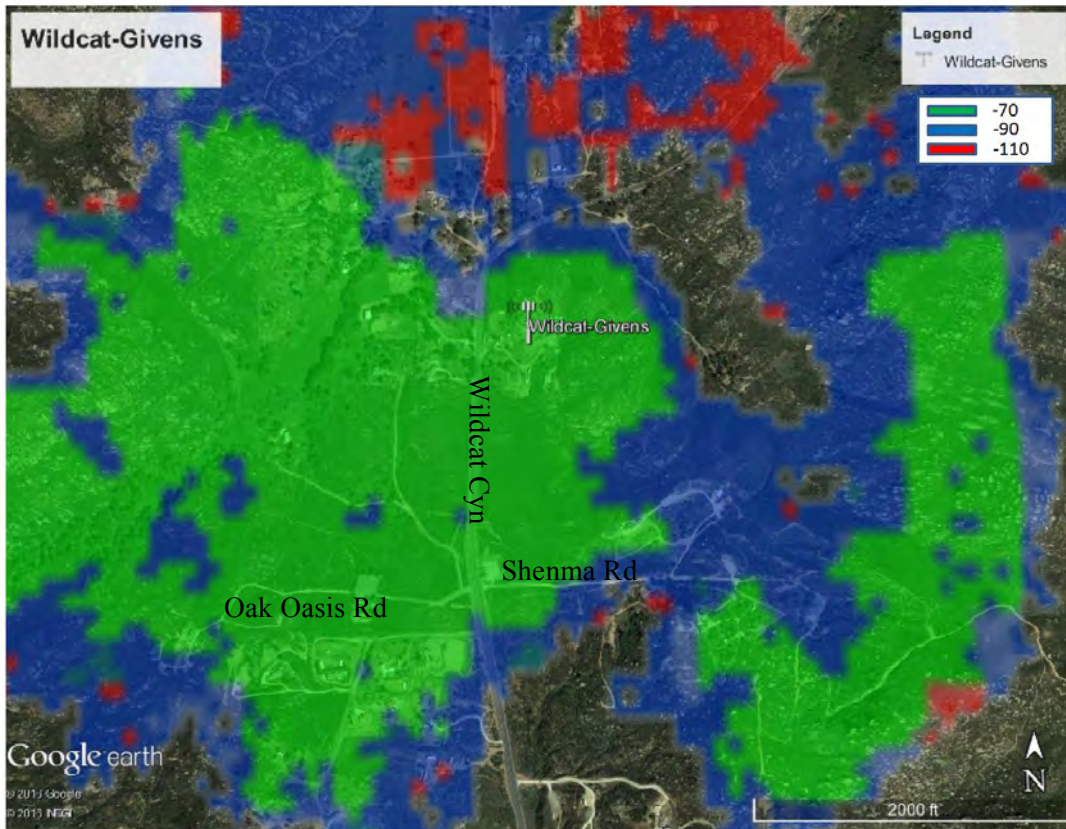
This location is .6 mile north from the proposed site

D.2 The Previously Approved Cingular (not built and since expired) PDS2003-3400-03-005
This location is .5 mile south from the proposed location



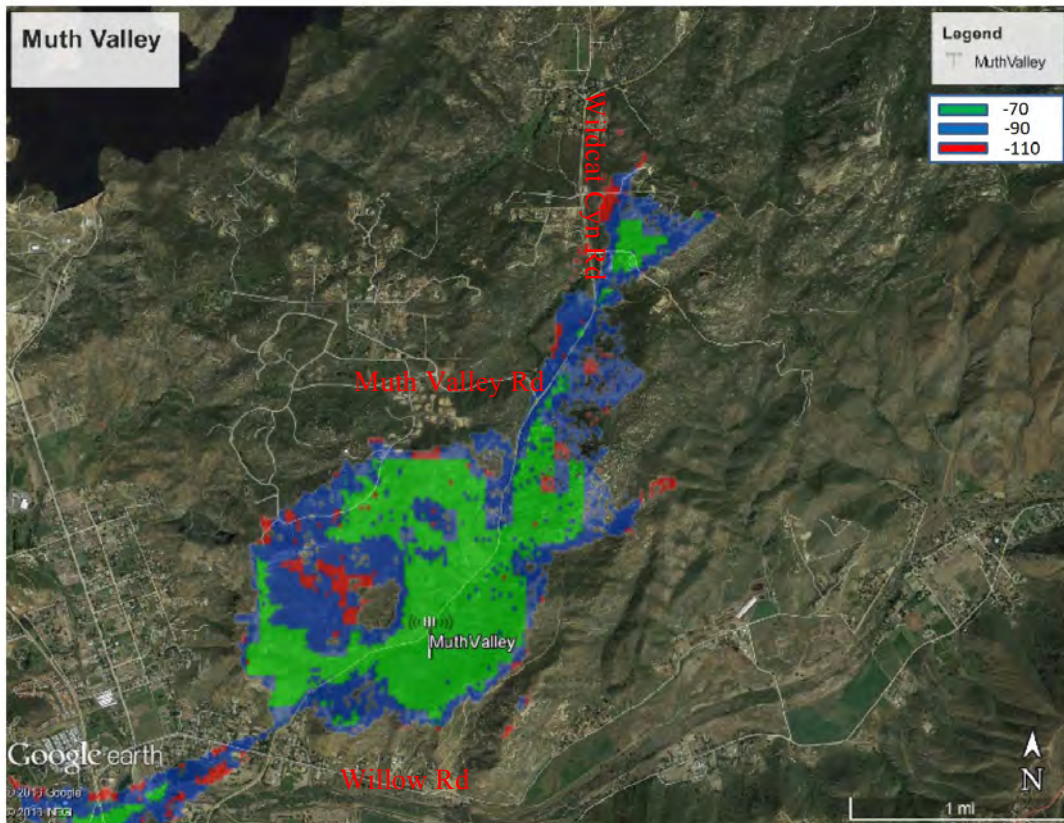
MUP-16-008 Exhibit D continued

D.3 This location is due east across Wildcat Canyon on the Givens property
This location is .2 miles east of the proposed site



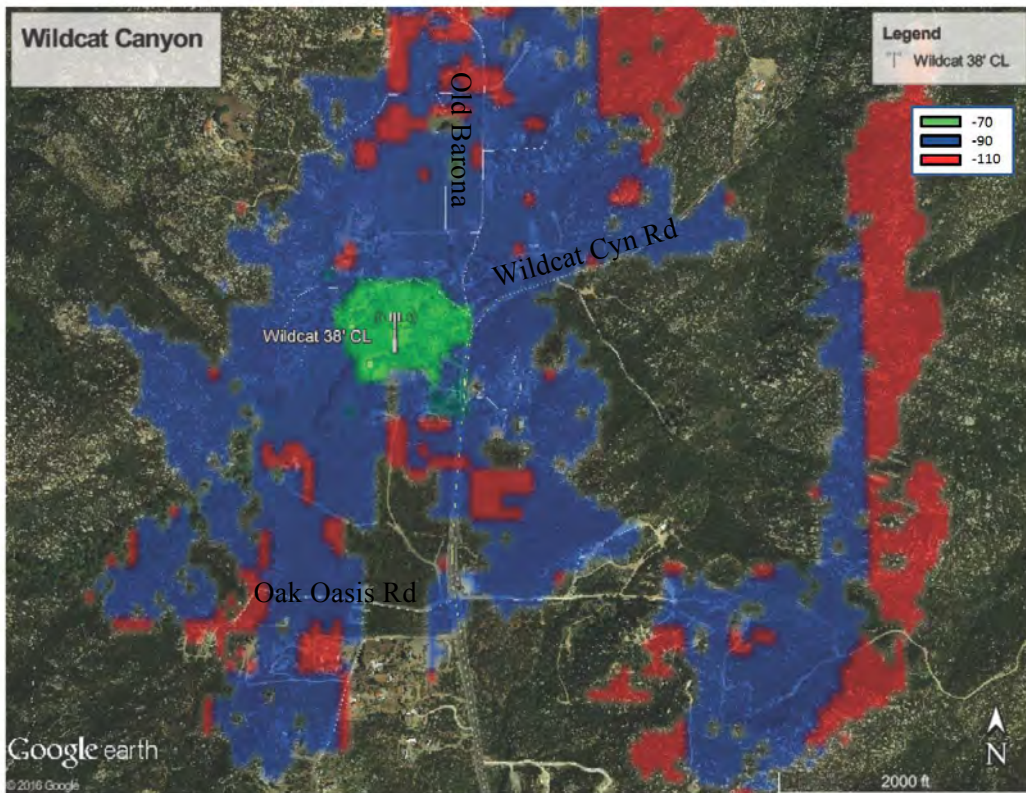
D.4

This location is a proposed Verizon site located in Stelzer Park a Muth Rd is 2.5 miles south of the proposed site

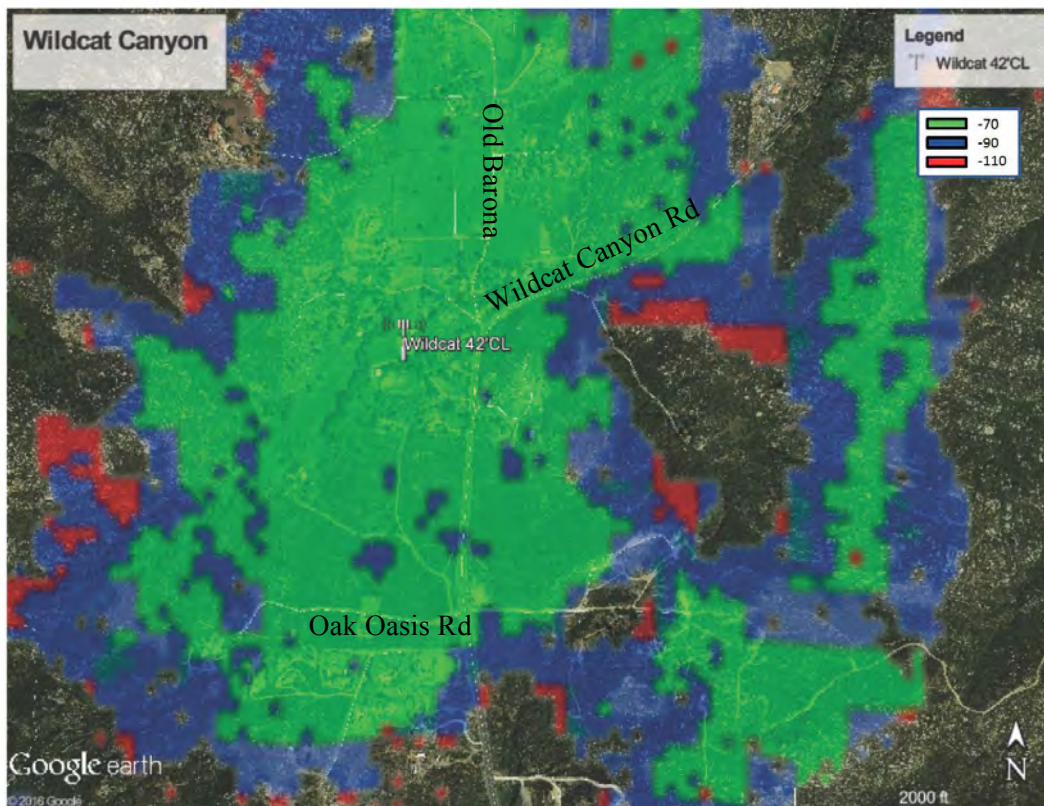


MUP-16-008 Exhibit E Height Justification

(E.1) This slide shows the RF coverage with a 41' antenna tip height (6' antenna). The ground elevation of the proposed site is 35' below the ground elevation of Wildcat Canyon Rd at the same latitude



(E.2) This slide below shows the RF coverage with the lowest antenna tip height at 45' (6' antenna) as proposed to clear the surrounding tree clutter along the host properties east fence line.



TeleSpan's director of RF engineering is Steven Sweeney. Before working for TeleSpan, Steve was manager of RF engineering of the San Diego market for Pacific Bell Mobile Services (now AT&T Wireless). Prior to that Steve was the manager of RF engineering of the counties of the entire Central Coast of California for GTE (now Verizon). Responsibilities in both of these positions included frequency design, radio network engineering, and site selection.

As director of RF engineering with TeleSpan, Steve manages a crew of RF Engineers and Drive Testers whose purpose is to identify and validate areas that multiple wireless carriers suffer from degraded or no-service. Once an area has been identified, RF engineering works to determine suitable solutions from an RF perspective. These solutions are then filtered for feasibility based on land use categories, permitting considerations, existing structures, etc.

TeleSpan's method of data collection used to find underserved areas is derived by a real world measurement of actual signal strength as experienced by each wireless carrier's customers. This is accomplished by using a field test measurement system manufactured by *Solutelia* based out of Denver Colorado. This system is marketed as *WINd Pro* and is composed of hardware and proprietary software that effectively allows for real-time field measurements. Solutelia is an industry recognized company and its products are utilized by a variety of wireless industry companies including network equipment manufacturers such as Ericsson, and by wireless operators such as Verizon, Sprint, and AT&T for their own internal use.

The field hardware used in our testing consists of four Android phone devices. Each phone is assigned and programmed for service on a different carrier (AT&T, Sprint, T-Mobile, Verizon). After defining a drive route the drive test is initiated. In order to simulate actual user experience, no antennas external to the vehicle are used. Each phone is then activated by placing a call to a number that provides continuous voice (a voice recording on a loop). The phones are located within the vehicle and are mounted just above dashboard height with no external antenna - so as to accurately capture the signal quality after vehicle caused loss (degradation from signal passing through the vehicle's metal, plastic, glass, etc.). Should a call drop, it is immediately reinitiated by the phones resident proprietary software and measurements continue.

These continuous measurements are stored as the call progresses with all measurement data tagged with a latitude and longitude coordinate. After test completion all data is uploaded to a server for post-processing that ultimately results in the color-coded mapping illustrations.